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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/673,886	09/30/2003	Jean-Louis Escary	60711.000023	7856

21967 7590 02/07/2007

HUNTON & WILLIAMS LLP
INTELLECTUAL PROPERTY DEPARTMENT
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SUITE 1200
WASHINGTON, DC 20006-1109

EXAMINER	
HISSONG, BRUCE D	
ART UNIT	**PAPER NUMBER**
1646	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	02/07/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	10/673,886	ESCARY, JEAN-LOUIS	
	Examiner	Art Unit	
	Bruce D. Hissong, Ph.D.	1646	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *15 November 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-113* is/are pending in the application.

4a) Of the above claim(s) *1-82 and 103-113* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *83-102* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *1/13/2004*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☒ Other: *Sequence comparisons 1-3*.

DETAILED ACTION

Election/Restrictions

1. Applicant's election with traverse of Group IV, claims 83-102, in the replies filed on 8/2/2006 and 11/15/2006 is acknowledged. The traversal is on the ground(s) that Groups I-VIII are drawn to products and methods of use relating to interferon (IFN)-α-21, and therefore it would not be a serious search burden to search all groups of the instant invention. This is not found persuasive because as set forth in the requirement for restriction mailed on 7/5/2006, the groups of the instant invention are drawn to products that differ in structure, composition, and function, and methods that involve different method steps, starting materials, and final goals. Therefore, a single search would not necessarily uncover art on each of the different groups of the instant application.

The requirement is still deemed proper and is therefore made FINAL.

2. Applicant's election, with traverse, of the K179E SNP in the reply filed on 8/2/2006 and 11/15/2006, is acknowledged. However, because applicant did not distinctly and specifically point out the supposed errors in the species election, the election has been treated as an election without traverse (MPEP § 818.03(a)).

The requirement is still deemed proper and is therefore made FINAL.

3. Claims 1-113 are currently pending. Claims 1-82 and 103-113 are withdrawn as non-elected subject matter, and due to the election of the K179 SNP, claims 83-84 and 90-96 are also withdrawn as non-elected subject matter. Therefore, claims 85-89 and 97-102 are the subject of this office action.

Information Disclosure Statement

The information disclosure statement received on 1/13/2004 has been considered by the Examiner. Citations 7 and 8 have not been considered because the year and version number of the NCBI listing is not specified. Furthermore, citation 9 has not been considered for being in improper format because the publication year is not specified.

Claim Rejections - 35 USC § 112, first paragraph – enablement

The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

The factors to be considered when determining if the disclosure satisfies the enablement requirement have been summarized as the quantity of experimentation necessary, the amount of direction or guidance presented, the presence or absence of working examples, the nature of the invention, the state of the prior art, the relative skill of those in the art, the predictability or unpredictability of the art, and the breath of claims. Ex Parte Forman, (230 USPQ 546 (Bd. Pat. App. & Int. 1986); In re Wands, 858 F.2d 731, 8 USPQ 2d 1400 (Fed. Cir. 1988).

Claims 85-89 and 97-102 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for an isolated polypeptide comprising a polypeptide that comprises one or more of the recited Q102K, Q114H, K179E, V127D, or A42G SNPs, does not reasonably provide enablement for any other polypeptide exhibiting less than 100% identity to the polypeptide of SEQ ID NO: 2, or regions of SEQ ID NO: 2. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the invention commensurate in scope with these claims.

The instant claims are drawn to an isolated polypeptide comprising a peptide sequence that is at least 80%, 90%, 95%, 97%, or 99% identical to the polypeptide of SEQ ID NO: 2, or to the polypeptide of amino acids 24-189 of SEQ ID NO: 2, provided that amino acids 24-189 of SEQ ID NO: 2 comprises at least one of the recited Q102K, Q114H, K179E, V127D, or A42G SNPs. The claims are also drawn to any polypeptide having at least 97% identity to amino acids 1-161, or 24-161, of SEQ ID NO: 2. The breadth of the claims is excessive because the claims are drawn to any polypeptide, that is at least 80%, 90%, 95%, 97%, or 99% identical to SEQ ID NO: 2, or to amino acids 24-189 of SEQ ID NO: 2 further comprising the various SNPs. Thus, the claims are drawn to an unreasonably large number of potential polypeptides that may not have any known function or biological activity. The instant specification teaches that SEQ ID NO: 2 is the polypeptide sequence of human IFN-α-21, and discloses several biological

activities of IFN-α-21, including promotion dendritic cell maturation, enhancement of cytokine production, antiproliferative effects, and antiviral effects. The specification also teaches that IFN-α-21 polypeptides comprising various claimed SNPs exhibit increased biological activities relative to IFN-α-2. However, the specification does not provide guidance or examples of any other polypeptide having less than 100% identity to SEQ ID NO: 2 that possess these, or any other biological activity or function. Furthermore, the specification does not teach which regions/domains or specific amino acid residues must be conserved in order to maintain the desired biological activities, nor do the claims recite a specific function.

It is known in the art that even single amino acid changes or differences in the amino acid sequence of a protein can have dramatic effects on the protein's function. As an example of the unpredictable effects of mutations on protein function, Mickle *et al* (*Med. Clin. North Am.*, 2000, Vol. 84(3), p. 597-607) teaches that cystic fibrosis is an autosomal recessive disorder caused by abnormal function of a chloride channel, referred to as the cystic fibrosis transmembrane conductance regulator (CFTR – p. 597). Several mutations can cause cystic fibrosis, including the G551D mutation. In this mutation, a glycine replaces the aspartic acid at position 551, giving rise to the cystic fibrosis phenotype. In the most common cystic fibrosis mutation, Δ-F508, a single phenylalanine is deleted at position 508, giving rise to the cystic fibrosis phenotype. Thus, even the substitution or deletion of a single amino acid can have dramatic and *unpredictable* effects on the function of the protein.

In light of the teachings of Mickle *et al*, one of ordinary skill in the art would know that it would not be possible to predict the effects of the many modifications or mutations that must be made to the polypeptide of SEQ ID NO: 2 in order to create a polypeptide that is at least 80%, 90%, 95%, 97%, or 99% identical to SEQ ID NO: 2, or amino acids 24-189 of SEQ ID NO: 2 having the claimed SNPs. Therefore, due to this unpredictability, a skilled artisan would not be able to make all possible the polypeptides that are encompassed by the claims without further, undue experimentation.

Claim Rejections - 35 USC § 112, first paragraph – written description

Claims 85-89 and 97-102 are rejected under 35 U.S.C. 112, first paragraph, containing subject matter which was not described in the specification in such a way as to reasonably

convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

The claims are drawn to an isolated polypeptide comprising a peptide sequence that is at least 80, 90, 95, 97, or 99% identical to (a) the polypeptide of SEQ ID NO: 2, or (b) amino acids 24-189 of SEQ ID NO: 2 further comprising at least one of the claimed SNPs. The claims do not require the isolated polypeptides of the instant invention to have any biological activity, nor any particular structure other than to be at least 80% identical to SEQ ID NO: 2, or 80% identical to amino acids 24-189 of SEQ ID NO: 2 and further comprising a claimed SNP. Thus, the claims are drawn to a genus of polypeptides, defined only by percent identity to SEQ ID NO: 2, that has not been adequately described in the instant specification.

To provide adequate written description and evidence of possession of a claimed genus, the specification must provide sufficient distinguishing identifying characteristics of the genus. The factors to be considered include disclosure of complete or partial structure, physical and/or chemical properties, functional characteristics, structure/function correlation, methods of making the claimed product, or any combination thereof. In this case, the only factor present in the claims is a requirement that the claimed polypeptide be comprised of any peptide sequence that is at least 80% identical to SEQ ID NO: 2, or amino acids 24-189 of SEQ ID NO: 2 further comprising the claimed SNPs. There is no identification of any particular portion of the polypeptide of SEQ ID NO: 2 that must be conserved in order to maintain function, or any disclosure of any region/domain or amino acid sequence that can be modified and still retain a biological function. Although the specification does teach specific SEQ ID NO: 2 polypeptides comprising various SNPs, such as Q102K, Q114H, K179E, V127D, or A42G, the breadth of the claims encompasses all possible polypeptides that are at least 80% identical to SEQ ID NO: 2, or to amino acids 24-189 of SEQ ID NO: 2 further comprising said SNPs. Therefore, the polypeptides of SEQ ID NO: 2 comprising the Q102K, Q114H, K179E, V127D, or A42G SNPs are not, by themselves, sufficient to describe the claimed genus of polypeptides. Accordingly, in the absence of sufficient distinguishing characteristics, the specification does not provide adequate written description of the claimed genus. Furthermore, the claims are also drawn to polypeptides of SEQ ID NO: 2 further comprising other polypeptide sequences, as set forth above in rejection #2 under 35 U.S.C. 112, 1st paragraph – enablement. The specification does not teach or describe any polypeptide sequence that can further comprise any SEQ ID NO: 2 polypeptide and result in a polypeptide that still retains biological function, and therefore these

extra polypeptide sequences constitute a genus of polypeptide sequences that is not adequately described.

Vas-Cath Inc. v. Mahurkar, 19USPQ2d 1111, clearly states "applicant must convey with reasonable clarity to those skilled in the art that, as of the filing date sought, he or she was in possession *of the invention*. The invention is, for purposes of the 'written description' inquiry, *whatever is now claimed.*" (See page 1117) The specification does not "clearly allow persons of ordinary skill in the art to recognize that [he or she] invented what is claimed." (See *Vas-Cath* at page 1116). As discussed above, the skilled artisan cannot envision the detailed chemical structure of the encompassed genus of polypeptides, and therefore conception is not achieved until reduction to practice has occurred, regardless of the complexity or simplicity of the method of isolation. Adequate written description requires more than a mere statement that it is part of the invention and reference to a potential method of isolating it. The compound itself is required. See *Fiers v. Revel*, 25 USPQ2d 1601 at 1606 (CAFC 1993) and *Amgen Inc. v. Chugai Pharmaceutical Co. Ltd.*, 18 USPQ2d 1016.

One cannot describe what one has not conceived. See *Fiddes v. Baird*, 30 USPQ2d 1481 at 1483. In *Fiddes*, claims directed to mammalian FGF's were found to be unpatentable due to lack of written description for that broad class. The specification provided only the bovine sequence.

Therefore, only the isolated polypeptide of the amino acid sequence set forth in SEQ ID NO:2, or of amino acids 24-189 of SEQ ID NO: 2 and further comprising a Q102K, Q114H, K179E, V127D, or A42G SNP, but not the full breadth of the claims, meets the written description provision of 35 U.S.C. §112, first paragraph. Applicant is reminded that *Vas-Cath* makes clear that the written description provision of 35 U.S.C. §112 is severable from its enablement provision (see page 1115).

Claim Rejections - 35 USC § 112, second paragraph

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 85-89 and 100-102 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which

applicant regards as the invention. The claims recite an isolated polypeptide comprising a peptide sequence that comprises the K179E SNP (claims 85-89), and other SNPs (claims 100-102), or the same SNP(s) at an "equivalent position". The intended meaning of the term "equivalent position" is not clear because it is not known how an "equivalent position" is determined or identified (i.e. by sequence alignment or other method), or if the "equivalent position" refers to some functionality of said position, or if the term encompasses something else. Therefore, the metes and bounds of the term "equivalent position" cannot be determined, and the claims are indefinite.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

1. Claims 85-89 and 97-100 are rejected under 35 U.S.C. 102(b) as being anticipated by Goeddel *et al* (GB 2 079 291 – cited in the information disclosure statement received on 1/13/2004). The claims of the instant invention are drawn to an isolated polypeptide comprising a peptide sequence that is at least 80%, 90%, 95%, 97%, or 99% identical to (a) the amino acid sequence of SEQ ID NO: 2, or (b) amino acids 24-189 of SEQ ID NO: 2 further comprising various SNPs. The claims are further drawn to an isolated polypeptide that is at least 97% identical to (a) amino acids 1-161 of SEQ ID NO: 2, or (b) amino acids 24-161 of SEQ ID NO: 2.

Goeddel *et al* teaches a polypeptide that is 100% identical to SEQ ID NO: 2 (see sequence comparison 1). Therefore, Goeddel *et al* meets the limitations of claims 82-89 and 97-100 of the instant application because the disclosed polypeptide of Goeddel *et al*, by virtue of being 100% identical to SEQ ID NO: 2, is greater than 80%, 90%, 95%, 97%, or 99% identical to the polypeptide of SEQ ID NO: 2. Furthermore, because the polypeptide of Goeddel *et al* is 100% identical to SEQ ID NO: 2 of the instant application, it would necessarily comprise a

polypeptide that is 100% identical to amino acids 1-161 of SEQ ID NO: 2, or amino acids 24-161 of SEQ ID NO: 2.

2. Claims 85-89 and 97-100 are rejected under 35 U.S.C. 102(e) as being anticipated by Chen et al (US 6,299,877). The subject matter of the claims of the instant invention is discussed *supra*. Chen *et al* teaches a polypeptide, SEQ ID NO: 19, that is 100% identical to SEQ ID NO: 2 (see sequence comparison 2). Therefore, Chen *et al* meets the limitations of claims 85-89 and 97-100 of the instant application because the disclosed polypeptide of Chen *et al*, by virtue of being 100% identical to SEQ ID NO: 2, is greater than 80%, 90%, 95%, 97%, or 99% identical to the polypeptide of SEQ ID NO: 2. Furthermore, because the polypeptide of Chen *et al* is 100% identical to SEQ ID NO: 2 of the instant application, it would necessarily comprise a polypeptide that is 100% identical to amino acids 1-161 of SEQ ID NO: 2, or amino acids 24-161 of SEQ ID NO: 2.

3. Claims 85-89 and 97-100 are rejected under 35 U.S.C. 102(e) as being anticipated by Goeddel *et al* (US 6,482,613 – referred to here as "Goeddel '613"). The subject matter of the claims of the instant invention is discussed *supra*. Goeddel '613 teaches a polypeptide, SEQ ID NO: 12, that is 100% identical to SEQ ID NO: 2 (see sequence comparison 3). Therefore, Goeddel '613 meets the limitations of claims 85-89 and 97-100 of the instant application because the disclosed polypeptide of Goeddel '613, by virtue of being 100% identical to SEQ ID NO: 2, is greater than 80%, 90%, 95%, 97%, or 99% identical to the polypeptide of SEQ ID NO: 2. Furthermore, because the polypeptide of Goedell '613 is 100% identical to SEQ ID NO: 2 of the instant application, it would necessarily comprise a polypeptide that is 100% identical to amino acids 1-161 of SEQ ID NO: 2, or amino acids 24-161 of SEQ ID NO: 2.

Conclusion

No claim is allowable.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Bruce D. Hissong, Ph.D., whose telephone number is (571) 272-3324. The examiner can normally be reached M-F from 8:30 am - 5:00 pm. If attempts to reach the

examiner by telephone are unsuccessful, the examiner's supervisor, Gary Nickol, Ph.D., can be reached at (571) 272-0835. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

BDH
Art Unit 1646

ROBERT S. LANDSMAN, PH.D
PRIMARY EXAMINER

SEQUENCE COMPARISON 1

```
RESULT 1
AAP20108
ID   AAP20108 standard; protein; 189 AA.
XX
AC   AAP20108;
XX
DT   25-MAR-2003  (revised)
DT   10-AUG-1992  (first entry)
XX
DE   Sequence encoded by leukocyte interferon LeIF F cDNA.
XX
KW   Viral infection; therapy; malignancy.
XX
OS   Homo sapiens.
XX
FH   Key             Location/Qualifiers
FT   Peptide         1. .23
FT                   /label= signal
XX
PN   GB2079291-A.
XX
PD   20-JAN-1982.
XX
PF   01-JUL-1981;   81GB-00020279.
XX
PR   01-JUL-1980;   80US-00164986.
PR   08-SEP-1980;   80US-00184909.
PR   10-NOV-1980;   80US-00205578.
PR   21-APR-1981;   81US-00256204.
XX
PA   (HOFF ) HOFFMANN-LA ROCHE AG.
PA   (GETH ) GENENTECH INC.
PA   (GETH ) GENENTECH INC.
XX
PI   Goeddel DVN,  Pestka S;
XX
DR   WPI; 1982-04460E/03.
DR   N-PSDB; AAN20095.
XX
PT   Mature human leukocyte interferon polypeptide(s) - prepd. from microbes
PT   transformed with appropriate DNA sequences.
XX
PS   Disclosure; Fig 4; 20pp; English.
XX
CC   The inventors claim a polypeptide comprising the AA sequence of a mature
CC   human LeIF and a DNA sequence encoding it. LeIF A-D, F, H-J and encoding
CC   DNA are specifically claimed. They are natural allelic variations. LeIF
CC   is isolated from the leukocytes of humans with chronic myelogenous
CC   leukaemia, induced to produce interferon with Sendai or Newcastle disease
CC   virus; esp. the cell line KG-1. (Updated on 25-MAR-2003 to correct PF
CC   field.) (Updated on 25-MAR-2003 to correct PA field.)
XX
SQ   Sequence 189 AA;

  Query Match             100.0%;  Score 961;  DB 1;  Length 189;
  Best Local Similarity   100.0%;  Pred. No. 5.6e-86;
  Matches  189;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 MALSFSLLMAVLVLSYKSICSLGCDLPQTHSLGNRRALILLAQMGRISPFSCLKDRHDFG 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
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```
Db          1 MALSFSLLMAVLVLSYKSICSLGCDLPQTHSLGNRRALILLAQMGRISPFSCLKDRHDFG 60

Qy         61 FPQEEFDGNQFQKAQAISVLHEMIQQTFNLFSTKDSSATWEQSLLEKFSTELNQQLNDME 120
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         61 FPQEEFDGNQFQKAQAISVLHEMIQQTFNLFSTKDSSATWEQSLLEKFSTELNQQLNDME 120

Qy        121 ACVIQEVGVEETPLMNVDSILAVKKYFQRITLYLTEKKYSPCAWEVVRAEIMRSFSLSKI 180
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        121 ACVIQEVGVEETPLMNVDSILAVKKYFQRITLYLTEKKYSPCAWEVVRAEIMRSFSLSKI 180

Qy        181 FQERLRRKE 189
              |||||||||
Db        181 FQERLRRKE 189
```

SEQUENCE COMPARISION 2

```
RESULT 1
US-09-206-935-19
; Sequence 19, Application US/09206935
; Patent No. 6299877
; GENERAL INFORMATION:
;  APPLICANT: Chen, Jian
;  APPLICANT: Godowski, Paul
;  APPLICANT: Wood, William I.
;  APPLICANT: Zhang, Dong-Xiao
;  TITLE OF INVENTION: NOVEL TYPE I INTERFERONS
;  FILE REFERENCE: 11669.50US05
;  CURRENT APPLICATION NUMBER: US/09/206,935
;  CURRENT FILING DATE: 1998-12-07
;  EARLIER APPLICATION NUMBER: 60/084,045
;  EARLIER FILING DATE: 1998-05-04
;  NUMBER OF SEQ ID NOS: 24
;  SOFTWARE: PatentIn Ver. 2.0
; SEQ ID NO 19
;   LENGTH: 189
;   TYPE: PRT
;   ORGANISM: Homo sapiens
US-09-206-935-19

  Query Match             100.0%;  Score 961;  DB 2;  Length 189;
  Best Local Similarity   100.0%;  Pred. No. 3.8e-103;
  Matches  189;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 MALSFSLLMAVLVLSYKSICSLGCDLPQTHSLGNRRALILLAQMGRISPFSCLKDRHDFG 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 MALSFSLLMAVLVLSYKSICSLGCDLPQTHSLGNRRALILLAQMGRISPFSCLKDRHDFG 60

Qy         61 FPQEEFDGNQFQKAQAISVLHEMIQQTFNLFSTKDSSATWEQSLLEKFSTELNQQLNDME 120
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         61 FPQEEFDGNQFQKAQAISVLHEMIQQTFNLFSTKDSSATWEQSLLEKFSTELNQQLNDME 120

Qy        121 ACVIQEVGVEETPLMNVDSILAVKKYFQRITLYLTEKKYSPCAWEVVRAEIMRSFSLSKI 180
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        121 ACVIQEVGVEETPLMNVDSILAVKKYFQRITLYLTEKKYSPCAWEVVRAEIMRSFSLSKI 180

Qy        181 FQERLRRKE 189
              |||||||||
Db        181 FQERLRRKE 189
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SEQUENCE COMPARISON 3

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RESULT 3
US-07-145-002B-12
; Sequence 12, Application US/07145002B
; Patent No. 6482613
; GENERAL INFORMATION:
;  APPLICANT: Goeddel, David V.
;  APPLICANT:  Pestka, Sidney
;  TITLE OF INVENTION: MICROBIAL PRODUCTION OF MATURE HUMAN
;  TITLE OF INVENTION:  LEUKOCYTE INTERFERONS
;  FILE REFERENCE: 1803-0088-999
;  CURRENT APPLICATION NUMBER: US/07/145,002B
;  CURRENT FILING DATE:  1989-01-19
;  NUMBER OF SEQ ID NOS: 70
;  SOFTWARE: FastSEQ for Windows Version 3.0
; SEQ ID NO 12
;   LENGTH: 189
;   TYPE: PRT
;   ORGANISM: Homo sapiens
US-07-145-002B-12

  Query Match             100.0%;  Score 961;  DB 2;  Length 189;
  Best Local Similarity   100.0%;  Pred. No. 3.8e-103;
  Matches  189;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 MALSFSLLMAVLVLSYKSICSLGCDLPQTHSLGNRRALILLAQMGRISPFSCLKDRHDFG 60
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db          1 MALSFSLLMAVLVLSYKSICSLGCDLPQTHSLGNRRALILLAQMGRISPFSCLKDRHDFG 60

Qy         61 FPQEEFDGNQFQKAQAISVLHEMIQQTFNLFSTKDSSATWEQSLLEKFSTELNQQLNDME 120
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         61 FPQEEFDGNQFQKAQAISVLHEMIQQTFNLFSTKDSSATWEQSLLEKFSTELNQQLNDME 120

Qy        121 ACVIQEVGVEETPLMNVDSILAVKKYFQRITLYLTEKKYSPCAWEVVRAEIMRSFSLSKI 180
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        121 ACVIQEVGVEETPLMNVDSILAVKKYFQRITLYLTEKKYSPCAWEVVRAEIMRSFSLSKI 180

Qy        181 FQERLRRKE 189
              |||||||||
Db        181 FQERLRRKE 189
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